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DESCRIPTION OF A NEW GENUS AND SPECIES OF
SALAMANDER FROM JAPAN

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PLATE XIV

The California Academy of Sciences has received from the Far East a tailed batrachian belonging to the subfamily of Amblystomatinae. It is intermediate between the groups composed of *Hynobius* Tschudi and *Salamandrella* Dybowski on the one hand and of *Onychodactylus* Tschudi and *Geomolge* Boulenger on the other.

The larvæ possess stout claws, which is also the condition found in the young of *Geomolge*. The development of the dermal covering of the palms and soles is unique among salamanders.

Pachypalaminus new genus

Type.—*Pachypalaminus boulengeri*, No. 33192 California Academy of Sciences.

Generic Characters.—Tongue large, with longitudinal plicæ and sulci and with anterior and lateral borders free. Series of palatine teeth interrupted, forming a pair of salient angles, with mesial sides the longer. Palms, soles, and inferior surface and tips of fingers and toes covered with a tough brown corneous modification of the epidermis. Toes five. Tail compressed at the base, deepened and strongly compressed posteriorly.

The following species is dedicated to Mr. G. A. Boulenger, F. R. S., V. P. Z. S., as a slight token of the appreciation felt for assistance rendered me when a student in London.

May 3, 1912

Pachypalaminus boulengeri new species

Type.—No. 33192 California Academy of Sciences; male; Odaigahara Mt., Yamato Province, Honshu, Japan; October, 1911.

Specific Characters.—Head large, depressed, and as broad as long; snout long and rounded; nostril situated a trifle nearer to the orbit than to the tip of the snout; eyes rather large and prominent; orbit contained one and one third times in the length of the snout. Series of palatine teeth interrupted, not forming a reëntrant angle; apices of the two salient angles on a line with the centers of the choanæ; the length of the inner side of one of the angles equal to the interval between the choanæ; the length of the outer side equal to one third this interval. Tongue circular, strong and fleshy, filling the floor of the mouth, the surface finely and longitudinally plicate; two fairly deep sulci with a general antero-posterior trend, their outline that of two laterally directed obtuse angles, enclosing about one half the central area of the tongue. The gular fold moderately developed. Body depressed; distance from the snout to the gular fold contained nearly three times in the distance from the latter to the cloaca; median dorsal groove, markedly deepened over the pectoral and pelvic regions; thirteen well developed costal folds, including the one flexed to enter the axilla and the one reaching the groin; the nine middle folds continued across the abdomen. Vent (of male) three slits meeting in front, the medium longitudinal and longest, the two others obliquely directed forwards, forming an angle; the borders swollen. Limbs stout, when adpressed the digits overlap for about two millimeters. Digits well developed. Tail a trifle longer than the distance from the gular fold to the cloaca, strongly compressed, deepened and fleshy in the posterior half; not keeled; the tip rounded. Skin smooth; numerous mucous glands on snout, around nostrils and eyes, and on upper and lower lips; parotids distinct; an irregular horizontal groove from eye to gular fold, joined by a short vertical one posterior to angle of mouth. Color in spirits slate, a trifle paler beneath.

MEASUREMENTS (in millimeters)

Total length	161
From snout to cloaca	92
From snout to gular fold	23
From snout to level of centre of insertion of fore limb	35
From snout to level of centre of insertion of hind limb	88
From axilla to groin	44
Fore limb	23
Hind limb	26
Head	18.5
Width of head	19
From snout to nostril	5
Interval between nostrils	7.3
From snout to centre of eye	10
Interorbital	4.3
Interval between anterior canthi	9
Interval between posterior canthi	13.5
From anterior canthus to nostril	4
From snout to angle of mouth	15
Tail	69

	Depth	Width
At base of tail	12	11.5
At end of first quarter of tail	10.5	9.5
At end of second quarter of tail	12.5	6.5
At end of third quarter of tail	15.5	4.5

Series of palatine teeth:

Length (measured along mesial side of one salient angle)	6
Width (interval between extremities of lateral sides of salient angles)	6.8
Interval between apices of salient angles	4
Length of short lateral side of a salient angle	2
Interval between posterior extremities of mesial sides of each salient angle	1.5

California Academy of Sciences,
 April 23, 1912.

EXPLANATION OF PLATE XIV

Pachypalaminus boulegeri new species.

Type: No. 33192 California Academy of Sciences; male; Odaigahara Mt., Yamato Province, Honshu, Japan.

Figures 1, 2, 3 natural size; 4, 5, 6 enlarged two times.